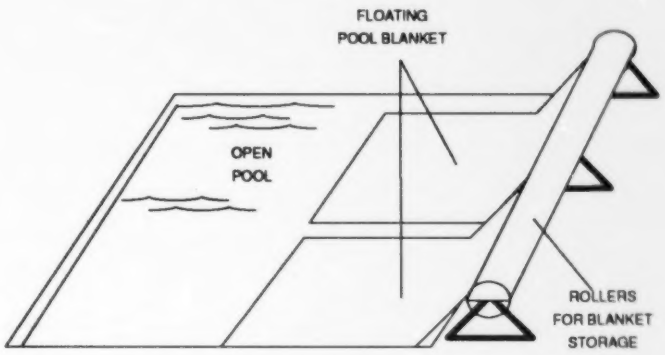
ENERGAIN

Energy Management and Control

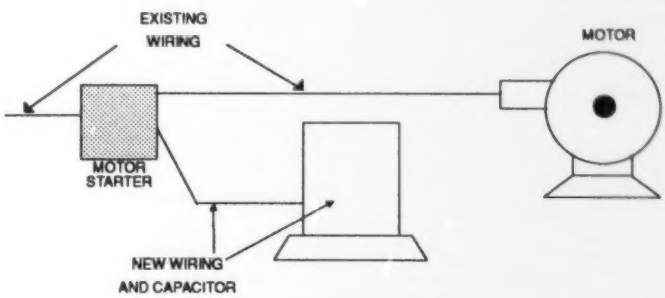
A report on the Small Scale Energy Demonstration Program

Swimming Pool Blanket



Excessive evaporation from the Windsor Community Swimming Pool cooled the water, and created condensation problems in the building. A pool blanket was installed to cover the pool at night, and control evaporative heat loss and moisture load on the building system. The blanket is very effective, and saves an estimated $3500 in energy expenditures annually. The cost of the project was $9700, giving a simple payback period of 2.8 years.

Power Factor Correction



Capacitors were wired to the starters of several large motors at Humber Gardens Arena in Corner Brook and Hodder Memorial Stadium in Deer Lake. The capacitors reduce the demand charges to the buildings by increasing the power factor, a measure of the apparent efficiency of power use.

The effectiveness of these retrofits cannot be determined easily because other energy saving measures were taken in each building at the same time. Both buildings have had lower energy costs since the retrofits were made. The power factor improvements most likely contributed to these savings.

An additional measure at the Humber Gardens assisted by CREDA funding involved insulating refrigerant piping where it ran through a heated area of the arena. This project, which cost $4150, resulted in annual savings of $730, for a payback of 5.7 years.

These projects were assisted by the Small Scale Energy Demonstration Program, which was part of CREDA, the Canada/Newfoundland Conservation and Renewable Energy Demonstration Agreement, funded by Energy, Mines and Resources Canada (80%) and the Newfoundland Department of Mines and Energy (20%).

Department of Mines and Energy

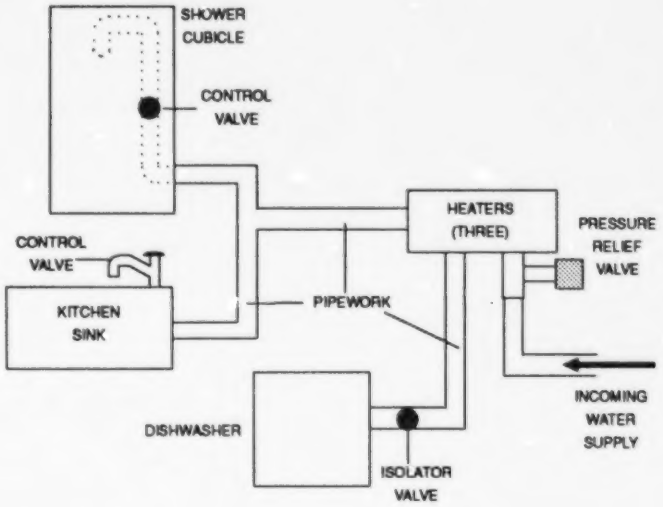
Government of Newfoundland and Labrador

Hon. Rex Gibbons, Ph. D., Minister

90-03788/

Instantaneous Hot Water Heaters

David Stewart of Torbay installed three instantaneous domestic hot water heaters to serve his shower, dishwasher and bathroom sink. The heaters, intended to reduce hot water storage tank losses, did not function properly, because the low supply water temperature required that the flow be reduced to a very low level unless two or more heaters were installed in series. The heaters have since been disconnected, and replaced with a 136 litre (30 gallon) standard domestic hot water heater.



Energy Management System

The Sir Wilfred Grenfell College in Corner Brook installed a microprocessor-controlled energy management system to save energy by controlling peak loads, shutting down systems not required, and duty-cycling major power loads. The annual saving from this retrofit is $11,300. The total cost of incorporating the system into the buildings' operations was $40,000. The simple payback period is 3.5 years.

Energy management systems similar to that at Sir Wilfred Grenfell College are used in all major new buildings in Newfoundland. They reduce energy consumption and cost, and allow the owner to remotely monitor the performance of a building. With smaller and less expensive systems being introduced each year, homeowners may soon be able to install energy management systems economically.

Department of Mines and Energy

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